|  |
| --- |
| Use the Van de Walle text and the TN Math Standards to complete this assignment. If other resources are used in addition, please cite with the URL or bibliographic information. |

*Chapter 15 Developing Fraction Concepts*

1. **Fraction Constructs**

|  |  |  |
| --- | --- | --- |
| **Construct** | **Description** | **Example** |
| Part-Whole |  |  |
| Measurement |  |  |
| Division |  |  |
| Operator |  |  |
| Ratio |  |  |

1. Select one of the **misconceptions** about fractions described in the text that you remember having. What could have helped you?
2. **Models** for Fractions

|  |  |  |
| --- | --- | --- |
| **Model Type** | **Description** | **Examples of Manipulatives** |
| Area |  |  |
| Length or Number line |  |  |
| Set |  |  |

1. Strategies to develop concept of **Fractional Parts**

|  |  |
| --- | --- |
| **Strategy** | **How does this strategy help students understand fractional parts?** |
| Partitioning | *(address differences with the use of area, length, and set models)* |
| Sharing Tasks |  |
| Iterating |  |

1. Visit the website Kids and Cookies, <http://www.teacherlink.org/KidsAndCookies/>

Practice sharing cookies with friends and working with fractional parts on the website. Model Felisha’s problem of sharing 2 cookies between 5 children & sketch your work here. Watch the video embedded on the digital version of your text on page 352 – what difficulties did Felicia have?

1. **Fraction Notation**. What does the numerator in a fraction tell us? What does the denominator in a fraction tell us?
2. What is an **improper fraction**?
3. Define **unit fraction**.
4. Describe two different ways to help students create an understanding for **equivalent fractions** with models.
5. How can students use models to develop the **equivalent-fraction** algorithm?
6. List and provide an example for the four suggested strategies to **compare fractions**.
7. What are the common **benchmark fractions** and how can they be used to estimate the relative size of fractions?

*Chapter 17 – Developing Concepts of Decimals p. 403-416*

1. Explain how regrouping can be used to represent the 10-1 relationship in the study of place value. Give an example of using this for whole numbers and decimals.

2. Visual **Models** for Decimal Fractions

|  |  |  |
| --- | --- | --- |
| **Model Type** | **Description** | **Examples of Models** |
| Area |  |  |
| Length |  |  |
| Set |  |  |

3. **Speaking & Writing** decimals and decimal fractions

* How should you say 6.5?
* How should you say 4/5?
* What are some different ways to write this fraction using tenths and hundredths? 72 hundredths

4. Describe one way students can translate common fractions (halves, thirds, fourths, eighths) to decimals in a conceptual manner.

5. What **benchmarks** should be used to estimate with decimals?

6. How can the calculator be used to help students develop familiarity with decimal concepts?

7. List and describe the 6 **common errors/misconceptions** with comparing/ordering decimals.

8. What is the **density of decimals**?

**TN MATH STANDARDS – Developing Concepts of Fraction & Decimals**

List any standard that you find that addresses these concepts. Mark any standards that represent the “**major content**” of the grade level.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | Fair Shares/ Partitioning  *(look at Geometry!)* | Fraction Structure | Represent fraction with number line (*look at MD too!)* | Use of benchmark fractions for comparison | Equivalent Fractions | Decimal Notation | Compare Decimals |
| 1 |  |  |  |  |  |  |  |
| 2 |  |  |  |  |  |  |  |
| 3 |  |  |  |  |  |  |  |
| 4 |  |  |  |  |  |  |  |
| 5 |  |  |  |  |  |  |  |